CLAIMS

What is claimed is:

1. A multi-node computer system comprising:

a local node, the local node comprising at least one local sub-node, the at least one local sub-node including a first local sub-node, the first local sub-node comprising:

a local dynamic memory, the local dynamic memory being a volatile system memory used by a processor in the first local sub-node;

a scalability port including a write-through transmit buffer associated with the local dynamic memory; and

a first scalability chipset comprising a first memory controller that directs a write of data to the local dynamic memory simultaneous with a back-up write of the data to the write-through transmitting buffer;

a remote node, the remote node comprising at least one remote sub-node, the at least one remote sub-node including a first remote sub-node, the first remote sub-node comprising:

a back-up memory for the local dynamic memory of the first local sub-node, the back-up memory being distinct from local system memory of the first remote sub-node;

a receiving interface buffer for receiving, from the write-though transmit buffer associated with the local dynamic memory of the first sub-node, data written to the local dynamic memory of the first sub-node; and

a second scalability chipset comprising a second memory controller that directs a write to the back-up memory of data received at the receiving interface buffer; and

an input/output controller in the second scalability chipset that assigns a location identity of the first local sub-node to a replacement sub-node only if the first local sub-node is removed from the multi-node computer system, the location memory based on a memory map included in the data stored in the back-up memory in the first remote sub-node.

2. The multi-node computer system of claim 1, wherein the replacement sub-node is the first remote sub-node.

3. The multi-node computer system of claim 1, wherein the replacement sub-node is a second remote sub-node of the remote node, the second remote sub-node having received and stored the data from the back-up memory of the first remote sub-node.

4. The multi-node computer system of claim 1, wherein the replacement sub-node is a second local sub-node of the local node, the second local sub-node having received and stored the data from the back-up memory of the first remote sub-node.

5. The multi-node computer system of claim 1, wherein the first local sub-node is removed as a hot swap, in which all other nodes of the multi-node computer system remain non-quiescent.

6. A method of removing a node from a multi-node computer, the method comprising:

receiving a system management interrupt (SMI) in a node in a multi-node computer;

quiescenting only the node receiving the SMI;

polling other nodes in the multi-node computer to determine if the SMI affects an operation of any of the other nodes;

quiescenting any other SMI affected node; and

transferring all of the contents of any affected node's system memory to a backup memory in an unaffected node in the multi-node computer, wherein the unaffected node assumes all operations of the node that received the SMI, thus allowing the node to be removed from the multi-node computer.

7. The method of claim 6, wherein the SMI is in response to a request to hot-swap out the node.

8. The method of claim 6, wherein the SMI is in response to a predicted failure of the node.

9. A method of removing a sub-node from a multi-node computer, the method comprising:

Receiving a system management interrupt (SMI) in a sub-node in a multi-node computer;

quiescenting only the sub-node receiving the SMI;

polling other sub-nodes in the multi-node computer to determine if the SMI affects an operation of any of the other sub-nodes;

quiescenting any other SMI affected sub-node; and

transferring all of the contents of each affected sub-node's system memory to a backup memory in an a respective unaffected sub-node in the multi-node computer, wherein the unaffected sub-node assumes all operations of the sub-node that received the SMI, thus allowing the sub-node to be removed from the multi-node computer.

10. The method of claim 9, wherein the unaffected sub-node is in a node that does not include the SMI affected sub-node.

11. The method of claim 9, wherein the unaffected sub-node is in a same node as the SMI affected sub-node.

12. A computer program product, residing on a computer usable medium, for removing a node from a multi-node computer, the computer program product comprising:

program code for receiving a system management interrupt (SMI) in a node in a multi-node computer;

program code for quiescenting only the node receiving the SMI;

program code for polling other nodes in the multi-node computer to determine if the SMI affects an operation of any of the other nodes;

program code for quiescenting any other SMI affected node; and

program code for transferring all of the contents of any affected node's system memory to a backup memory in an unaffected node in the multi-node computer, wherein the unaffected node assumes all operations of the node that received the SMI, thus allowing the node to be removed from the multi-node computer.

13. The computer program product of claim 12, wherein the SMI is in response to a request to hot-swap out the node.

14. The computer program product of claim 12, wherein the SMI is in response to a predicted failure of the node.